AMENDMENTS

In the Claims:

1.   (Currently Amended)   A virtualizing microarray system**, said system** comprising:

  (a)   a physical ~~catalog~~ microarray comprising:

  (i)   a number of features, each feature containing a type of probe molecule designed to bind a target molecule; and

  (ii)   a memory element physically associated with the **physical** ~~catalog~~ microarray, wherein said memory element ~~comprising~~ **comprises data** that describes each feature of the catalog microarray; and

  (b)   logic that generates a virtual microarray comprising data describing a subset of the features of the **physical** ~~catalog~~ microarray.

2. (Currently Amended)   The virtualizing microarray system of claim 1 wherein the data describing a feature of the **physical** ~~catalog~~ microarray includes:

data that identifies a position of the feature within the **physical** ~~catalog~~ microarray;

data that identifies the type of probe molecules contained in the feature; and

data that describes the target molecule of the probe molecules contained in the feature.

3. (Previously Presented)   The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature includes:

data that describes an immediate target molecule to which the probe molecules bind.

4. (Previously Presented)   The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature includes:

data that describes a biological molecule produced by synthesis directed by an immediate target molecule to which the probe molecules bind.

5. (Previously Presented)   The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature further includes:

data describing molecular function;

data describing a biological process; and

data describing a cellular component.

6. (Currently Amended)   The virtualizing microarray system of claim 1 wherein the logic that generates a virtual microarray includes:

logic that allows specification of masks related to the data describing each feature of the **physical** ~~catalog~~ microarray; and

logic that uses the specified masks to filter the features of the **physical** ~~catalog~~ microarray to produce the data describing a subset of the features of the **physical** ~~catalog~~ microarray.

7. (Previously Presented)   The virtualizing microarray system of claim 1, wherein said system comprises one of:

a microarray scanner;

a microarray-data processing system;

a microarray-data visualization system.

8. (Cancelled)

9. (Previously Presented)   The virtualizing microarray system of claim 1 wherein the catalog microarray further includes a header that allows the logic to associate data describing each feature of the catalog microarray with a catalog microarray identified by information contained in the header.